

XXVI.—*On the Common Limpet (Patella vulgaris), considered as an article of food in the North of Ireland.* By ROBERT PATTERSON, Esq., Treasurer for the Belfast Museum.

IN the month of May 1835, I passed some time in the vicinity of the sea-port town of Larne, county of Antrim, and could not avoid noticing the number of persons who were engaged at low water in collecting limpets. On inquiry I found that they were sought by many as an addition to their ordinary food; while others were employed in procuring them for sale. These people informed me, that ten women, inhabitants of the town of Larne, were thus occupied, and sold on an average four quarts of "the fish" daily. The word "fish" was invariably employed by them to designate the animal when removed from the shell; and about five pints of limpets as gathered from the rocks were required to produce one quart of "the fish," which was sold in Larne for twopence. Their average earnings would at this rate have amounted to about eight pence per day. At particular seasons, these people collect dullesh (*Rodomenia palmata*), and sloke or laver (*Porphyra vulgaris*, &c.), which are either sold in Larne or carried to other towns.

In the month of July 1837, I was again in the same locality, and renewed my inquiries on the subject. At this time very great and general distress prevailed in many parts of the kingdom, and the neighbourhood of Larne had not escaped. Those whose means did not enable them to purchase bread, were driven to extremities to procure food, and the productions offered by the beach, formed a natural, though very precarious resource. To some of these poor people the sabbath was not always a day of rest. Necessity drove them forth to collect the scanty repast which an examination of the rocks about the coast might afford. Of this I saw no instance at Larne, but further northward on the morning of Sunday the 25th of June 1837, I observed many persons thus occupied on a ledge of low rocks, lying between Cairnlough and Drumnasole. The absence of other employment and the scarcity of food, occasioned, as might be supposed, a great increase of the

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From the greater number of persons employed about Larne and Island Magee, in searching for limpets, they were becoming towards the end of July difficult to be obtained, and that woman considered herself fortunate who could then earn by collecting them sixpence per day. The average of their earnings at that period would not, I was assured, much exceed fourpence. A rather anomalous circumstance must however be mentioned. Though the limpets were in greater demand than ever, the price did not advance; on the contrary, from the increased competition of the sellers, it fell from twopence to three halfpence per quart.

Some persons in the spring of 1837, were employed in gathering limpets so early as February, but few do so until the month of March is far advanced. In May "the fish" are in their prime, and on some parts of the County Down shore, the plumpness which they assume in this month is with great simplicity attributed to "the May dew." The season is over by the middle of August*. It may be regarded therefore as lasting for five months; or as the beginning and ending do not afford employment to the same number of people as the time when it is at its height, four months may be computed as the period of active exertion.

It would be difficult, or rather it would be quite impossible, to form any correct estimate of the quantity of limpets collected this season about Larne and the adjacent peninsula of "Island Magee." Some rude approximation to the result may however be obtained.

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It may be remarked, that almost no limpets are collected there on the Sundays or during severe weather. On the other hand, there are women and children who are in the habit of coming frequently to the rocks and collecting for their own use. The extra quantity withdrawn in the latter way, may fairly counterbalance the diminished consumption occasioned by the recurrence of the former causes; so that all these considerations may perhaps, without much error, be excluded from the following calculation.

Assuming that the smaller number of persons is the more correct, we have this year (1837) thirty individuals employed for four months or one hundred and twenty days, and selling daily four quarts of limpets. The total quantity thus sold would be 14,400 quarts, which at three halfpence per quart would amount to 83*l.* 15*s.* As however the rate at the commencement of the season was two pence, and that price was always obtained for "horned*" limpets, and for those sold in the country, the money actually realized would exceed 100*l.*

Three quarts of the boiled limpets were found by a friend to weigh 5 lb. 2 oz. Five quarts weighed in my presence gave 9 lbs. The average of our two trials gave a weight of 1 lb. 12 oz. to each quart. According to these data, the actual weight sold this season, would be 25,200 lbs. or eleven and a quarter tons.

The weight as carried from the beach is however much greater, for in addition to that of the animal, there is that of the shell, and of a small quantity of sea-water which it contains. I found that while five quarts of limpets weighed 9 lbs. the shells of the same "fish" weighed 13 lbs. making the total weight of the animals and their shells 22 lbs. If therefore 9 lbs. of the limpets amount with their shells to 22 lbs., the total quantity as before stated, 25,200 lbs. would give an aggregate of 61,600 lbs., or twenty seven and a half tons.

If we wish to know however the actual weight of the molusca and their shells removed from the coast, we must recollect that whelks or periwinkles (*Turbo littoreus*, Linn.) are collected along with the limpets. These are sold in their shells

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As a natural sequel to the preceding observations, it may be interesting to glance at the consumption of some marine testacea as food in the adjoining county of Down. At Hollywood, four miles from Belfast, the coast is destitute of rocks, and consequently of limpets, but their absence is amply compensated by very extensive beds of muscles (*Mytilus edulis*), which supply an important article of diet to the poorer classes in the village. The shells are in general allowed to accumulate about their habitations until they become sufficiently numerous to fill a cart. They are then sold to lime-burners, who spread them on the lime at the top of their kilns, and consider that when thus placed they facilitate the combustion. Large quantities of muscles are carried by the poor venders into Belfast; and sometimes a boat laden at the muscle-bank, will discharge her cargo on one of the town wharfs, whence it is carted off and prepared for market.

At Bangor, six miles nearer to the entrance of the Lough, the shore becomes rocky with the occasional intervention of sandy bays. No one here makes a business of selling limpets, but many poor people are glad to collect them, to eke out their scanty repast. At Donaghadee, four miles distant, they are found in large quantities. Nor are they used merely as an article of human food; they become of some importance in the economy of the farm-yard as feeding for swine. After being removed from the shells, they are thrown back into the water in which they have been boiled; and with the addition of a little oaten meal, are regarded as nutritive and highly salutary. To such an extent does this conviction prevail among the small farmers living along the coast, that even

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At Bangor, six miles nearer to the entrance of the Lough, the shore becomes rocky with the occasional intervention of sandy bays. No one here makes a business of selling limpets, but many poor people are glad to collect them, to eke out their scanty repast. At Donaghadee, four miles distant, they are found in large quantities. Nor are they used merely as an article of human food; they become of some importance in the economy of the farm-yard as feeding for swine. After being removed from the shells, they are thrown back into the water in which they have been boiled; and with the addition of a little oaten meal, are regarded as nutritive and highly salutary. To such an extent does this conviction prevail among the small farmers living along the coast, that even

* Ten large sacks filled with "whelks" were lately landed on the quay at Belfast. My informant did not inquire from what part of the coast they had been collected.

when the limpets are retained as food for their household, "the brew" is carefully laid aside for their swine, especially if the animals appear at all sickly.

From Donaghadee to the entrance of Strangford Lough, limpets furnish to the humbler classes a valuable supply of food, and their general use is attested by the vast quantity of shells which may occasionally be seen about their dwellings. In conclusion it may be remarked, that oysters (*Ostrea edulis*) and cockles (*Cardium edule*) are found in such abundance in some parts of the County Down shore that they cannot be overlooked in any notice, however slight, of the marine testacea of that coast.

Additional Note.—By Robert Ball, Esq. of Dublin, I am informed that limpet shells are seen lying in prodigious heaps, about the very old round houses, in the south island of Arran. He does not think that limpets are consumed to the same extent by the present inhabitants of the island; they are in common use among the very poorest people on the coasts of Waterford and Cork.

XXVII.—*Extract from a Letter of M. LUND on the Fossil Mammifera discovered by him in Brazil**.

Lagoa Santa, Nov. 5, 1838.

EVER since my arrival in Brazil, five years ago, I have continued to devote my particular attention to the fossil vertebrate animals which abound in the caverns. You will have some idea when I tell you that I have already collected 75 distinct species of Mammifera alone, belonging to 43 genera, that is to say, equaling in number of species, and exceeding in genera, the animals which actually inhabit the same country. The portion of Brazil which I have most carefully investigated is comprised between the rivers of Rio das Velhas and the Rio Paraopeba. This country forms an elevated plain 2000 feet above the level of the sea, and is traversed in its centre by a chain of mountains 300—700 feet in height, which is formed of secondary limestone stratified in horizontal beds, and possessing all the characters of the Zechstein or Höhlen-Kalkstein of the Germans (cavern limestone). It is entirely perforated with caverns and traversed in all directions by fissures which are more or less filled with the red earth identical with that forming the superficial stratum of the di-

* From an extract given by Victor Audouin, to whom the letter was addressed, in the Comptes Rendus, No. 15, Avril 1839.

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